

In the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Claim 1. (Canceled)

1 2. (Original) A computer implemented method of rasterizing a
2 page in a page description language in a multiprocessor integrated
3 circuit comprising the steps of:
4 interpreting said page in said page description language with a
5 first processor of said multiprocessor integrated circuit;
6 spawning a subtask from said first processor to another of said
7 processors for sorting polygon edges in increasing minimum Y
8 coordinate.

3. (Canceled)

1 4. (Currently Amended) The computer implemented method of
2 claim 5, wherein each of said other processors is a digital signal
3 processor having an integer multiplier unit and said method further
4 comprising:

5 spawning a subtask from said first processor to another of said
6 processors for detecting a Y coordinate of edge intersection
7 determined to occur between Y coordinates Ytop and Ybottom via
8 successive midpoint approximation by repeatedly

9 calculating a difference in the X coordinates of the
10 respective edges at Ytop and Ybottom are computed by

11
12 x1step = X1 - x1
13 x2step = X2 - x2
14

15 where: x1 and x2 are respective X coordinates of two edges at
16 Ybottom; and X1 and X2 are respective X coordinates of said two

17 edges at Ytop,

18 calculating the X coordinates of the respective edges at Y
19 coordinate Y = (y1+y2)/2 by

20

$$X1 = (x1 + x1step)/2$$

$$X2 = (x2 + x2step)/2$$

24 setting Ybottom as (Y + Ybottom)/2 if X2 ≥ X1 at Y, and

25 setting Ytop as (Y+Ytop)/2 if X2 < X1, and until a Y coordinate

26 of the intersection point is obtained with a desired accuracy.

1 5. (Currently Amended) The computer implemented method of
2 claim 5 2, wherein said first processor is a reduced instruction set
3 processor having a floating point computation unit and said method
4 further comprising:

5 calculating a Y coordinate of edge intersection employing
6 said floating point calculation unit of said first processor by

7

$$Y=(c1-c2)/(b2-b1)$$

8 9
10 where: a first edge has vertices (X1,Y1) and (X2,Y2) with b1 =
11 X1 - X2 and c1 = X2*Y1 - X1*Y2; and a second edge has vertices

12 (X3,Y3) and (X4,Y4) with b2 = X3 - X4 and c2 = X4*Y3 - X3*Y4.

Claims 6 to 10. (Canceled)

1 11. (New) The computer implemented method of claim 2, wherein
2 the multiprocessor integrated circuit includes plural other
3 processors and the method further comprising:

4 forming a queue of parallel tasks with said first processor;
5 and
6 dispatching a parallel task from said queue to a next available
7 other processor.